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CLAIMS:

1. A photovoltaic device, including a photovoltaic element including a plurality of layers^{of film} and an envelope, at least a portion of the envelope having a curved profile; *wherein the photovoltaic element is comprised of layers of film and is formed on the inside surface of the envelope*
- 5 ~~2. A photovoltaic device in accordance with claim 1, wherein layers of the photovoltaic element are of differing chemical composition.~~
- 10 ~~3. A photovoltaic device in accordance with claim 1 or claim 2, wherein one or more layers of the photovoltaic element are formed within the envelope.~~
- 15 ~~4. A photovoltaic device in accordance with claim 1, claim 2 or claim 3, wherein one or more layers of the photovoltaic element are formed on the envelope.~~
- 20 ~~5. A photovoltaic device in accordance with claim 1, ~~2, 3 or 4~~, wherein the envelope forms a dome containing the device.~~
- ~~6. A photovoltaic device in accordance with claim 5, wherein the dome is substantially a hemisphere.~~
- 25 ~~7. A photovoltaic device in accordance with claim ~~5~~ or claim ~~6~~, wherein the dome is mounted on a substrate forming a base of the dome.~~
- ~~8. A photovoltaic device in accordance with claim 1, 2 or 3, wherein the envelope substantially encapsulates the device.~~
- 30 ~~9. A photovoltaic device in accordance with claim ~~8~~, wherein the envelope is in the form of a sphere.~~

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~~10. A photovoltaic device in accordance with claim 8, wherein the envelope is in the form of a polyhedron.~~

~~11. A photovoltaic device in accordance with claim 10, wherein~~
5 ~~the photovoltaic element is formed on a face of the polyhedron.~~

5 ~~12. A photovoltaic device in accordance with any one of the preceding claims, further including an electronic apparatus mounted within the envelope and being electronically connected~~
10 ~~to the photovoltaic element, the photovoltaic element being arranged to provide electric power to the electronic apparatus.~~

6 ~~13. A photovoltaic device in accordance with claim 12, the electronic apparatus including a transmitter, for transmitting~~
15 ~~signals to a remote location.~~

~~14. A photovoltaic device in accordance with claim 12, the electronic apparatus including a transmitter for transmitting signals to other photovoltaic devices.~~

20 ~~15. A photovoltaic device in accordance with claim 13 or claim 14 further including an antenna connected to the transmitter, the antenna being formed by a conductive region of the envelope.~~

25 ~~16. A photovoltaic device in accordance with claim 13 or claim 14 further including an antenna connected to the transmitter, the antennal being formed by a conductive layer adjacent the photovoltaic element.~~

30 ~~17. A photovoltaic device in accordance with claim 12 or claim 13, further including an antenna connected to the transmitter, the antenna including a conductive member extending outwardly from the envelope.~~

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⁹ 18. A photovoltaic device in accordance with any ^{preceding claim} ~~one of claims~~ 12 to 17, further including an energy storage device.

¹⁰ 19. A photovoltaic device in accordance with claim ⁹ 18, the
5 energy storage device being in the form of a thin layers formed
proximate the layers of the photovoltaic element.

¹¹ 20. A photovoltaic device in accordance with any ^{preceding claim} ~~one of claims~~ 12 to 19, further including a sensor.

¹⁰ ¹² 21. A photovoltaic device in accordance with claim ¹¹ 20, the
sensor extending outwardly of the envelope.

¹⁵ 22. ~~A photovoltaic device in accordance with any one of claims~~
12 to 21, in the form of an individual module.

¹³ 23. A photovoltaic device in accordance with ^{any preceding} claim ~~22~~, in the
form of a mote arranged to provide information about an
environment.

²⁰ ¹⁴ 24. A photovoltaic device in accordance with claim ¹³ 23, the
device being enclosed in a resilient cover.

¹⁵ 25. A photovoltaic device in accordance with ^{either} claim ¹³ 23 or claim
²⁵ ¹⁴ 24, having an outer shape which is aerodynamic.

¹⁶ 26. A photovoltaic device in accordance with ^{any one of} claims ~~23, 24 or~~ ^{13, 24 or 15,}
23, further including means for orienting the device.

¹⁷ 27. A photovoltaic device in accordance with claim ¹⁶ 26, wherein
30 the orienting means includes a predetermined centre of gravity
of the device.

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28. A photovoltaic device in accordance with claim ~~26~~ ¹⁷ or ~~claim 27~~, wherein the orienting means includes a projection projecting outwardly of the device.

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5 29. A photovoltaic device in accordance with claims ~~26, 27 or 28~~ ¹⁶, the orienting means including an adhesive portion on an outer surface of the device.

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10 30. A photovoltaic device in accordance with any one of ¹⁴ claims 1 to ~~11~~, the device being mounted on a substrate and being electrically connected to the substrate.

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15 31. A photovoltaic device in accordance with claim ~~30~~ ²⁰, including a channel through the envelope to a conductive layer of the device and a conductor connecting the conductive layer to the substrate.

32. A photovoltaic device in accordance with claim 31, wherein the channel is lined with conductive material.

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33. A photovoltaic device in accordance with ^{either of 20 or 21} claim ~~29, 30 or 31~~, wherein the substrate includes a grid of conductors and the photovoltaic device is electrically connected to the grid.

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25 34. A photovoltaic device in accordance with any one of claims ~~30 to 33~~ ^{20 to 22}, wherein the substrate includes a depression, and the photovoltaic device is mounted within the depression.

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30 35. A photovoltaic device in accordance with any one of claims ~~30 to 34~~ ^{20 to 23}, the substrate including reflective means to reflect radiation incident on the substrate towards the device.

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36. A photovoltaic device in accordance with any one of the preceding claims, wherein the photovoltaic element is a thin film photovoltaic element.

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5 37. A photovoltaic device in accordance with claim ⁷⁵36, wherein the ~~line~~^{thin} film photovoltaic element is a Dye Solar Cell (DSC) element.

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10 ~~38.~~ A photovoltaic device in accordance with claim ⁷⁶~~37~~, wherein an internal electrode of the DSC element comprises carbon.

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39. A photovoltaic device in accordance with claim ⁷⁶~~37~~ wherein the device stores a reservoir of electrolyte to provide an electrolyte supply to an electrolyte layer of the DSC device.

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~~40.~~ A photovoltaic device in accordance with any one of the preceding claims, a resilient material being provided within the device to secure elements of the device and provide mechanical rigidity.

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41. A mote arranged to provide information about an environment, the mote including a photovoltaic element and an electronic apparatus confined by an envelope, the photovoltaic element or the photovoltaic element being arranged to provide electric power to the device.

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42. A mote in accordance with claim 41, the photovoltaic element including a plurality of layers.

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43. A mote in accordance with claim 42, the photovoltaic element being a Dye Solar Cell element.

44. A mote in accordance with claim 41, 42 or 43, being arranged to operate with a plurality of like motes.

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45. A photovoltaic array, including a plurality of photovoltaic devices in accordance with any one of claims 30 to 35, mounted on the substrate.

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46. A method of manufacturing a photovoltaic device including the steps of forming a photovoltaic element from a plurality of layers of differing chemical composition on conducting core, and forming an envelope with at least a portion of the envelope having a curved profile.

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47. A method of manufacturing a photovoltaic device including the following steps:

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- Providing an envelope, at least a portion of the envelope having a curved profile, and
- Forming a photovoltaic element from a plurality of layers of differing chemical composition; the layers being formed on at least part of the surface of the envelope

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48. A method of manufacturing a photovoltaic device in accordance with claim 47, further including steps of placing inside the envelope at least the following components:

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- a transmitter,
- a sensor,
- an energy storage device;

Electrically connecting these components and forming an antenna on or adjacent to the surface of the envelope, the antenna being electrically connected with the transmitter.

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49. A method of manufacturing a photovoltaic device in accordance with claim 48, further including enclosing the envelope into resilient transparent cover.

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50. A photovoltaic device substantially as herein described
with reference to the accompanying drawings.

5 ~~51. A mote, substantially as herein described, with reference
to the accompanying drawings.~~

52. A photovoltaic array, substantially as herein described
with reference to the accompanying drawings.

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